

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference PALGE03042	FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/KR 03/01372	International filing date (<i>day/month/year</i>) 10 July 2003 (10.07.2003)	(Earliest) Priority Date (<i>day/month/year</i>) 20 December 2002 (20.12.2002)
Applicant LG ELECTRONICS INC.		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 4 sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing:

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (See Box II).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☐ the text is approved as submitted by the applicant.

☒ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.: 2

☒ as suggested by the applicant.

☐ None of the figures.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

INTERNATIONAL SEARCH REPORT

International Publication No.
PCT/KR 03/01372-0

Box III TEXT OF THE ABSTRACT (Continuation of item 5 of the first sheet)

A refrigerating system includes: an evaporator (2) for performing a cooling operation as a refrigerant is evaporated; a compressor (4) for compressing the refrigerant discharged from the evaporator as a mover is reciprocally moved; a condenser (6) for changing the refrigerant compressed in the reciprocating compressor to a liquid refrigerant; and a capillary tube (8) for decompressing the refrigerant discharged from the condenser and transferring it to the evaporator. The refrigerant is an HFC refrigerant, hydrogenated carbon fluoride comprising hydrogen, fluorine and carbon and the lubricant is an ester-based lubricant, a sort of synthetic fluid, so that a lubricating performance and a performance of the refrigerating system can be improved.

INTERNATIONAL SEARCH REPORT

International Application No.
PCT/KR 03/0372-0

CLASSIFICATION OF SUBJECT MATTER

IPC⁷: F04B 35/04 , F04B 39/02

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC⁷: F04B, F25B, C09K, C10M

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

WPI, EPODOC, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6409484 B1 (Hyun) 25 June 2002 (25.06.02) <i>fig. 1.</i>	1.
X	US 5531574 A (Honma) 2 July 1996 (02.07.96) <i>abstract.</i>	1,6
A		7-10

☐ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

* Special categories of cited documents:

„A“ document defining the general state of the art which is not considered to be of particular relevance

„E“ earlier application or patent but published on or after the international filing date

„L“ document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

„O“ document referring to an oral disclosure, use, exhibition or other means

„P“ document published prior to the international filing date but later than the priority date claimed

„T“ later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

„X“ document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

„Y“ document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

„&“ document member of the same patent family

Date of the actual completion of the international search

20 October 2003 (20.10.2003)

Date of mailing of the international search report

20 November 2003 (20.11.2003)

Name and mailing address of the ISA/AT

Austrian Patent Office
Dresdner Straße 87, A-1200 Vienna

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No.

PCT/03/01372-0

Patent document cited in search report			Publication date	Patent family member(s)			Publication date
US	A	5531574	1996-07-02	KR	Y	125101Y	1998-11-02
				CN	A	1107943	1995-09-06
				JP	A	7238885	1995-09-12
US	B	6409484	2002-06-25	KR	A	2000043076	2000-07-15
				CN	B	1093914B	2002-11-06
				CN	T	1292067T	2001-04-18
				WO	A	0039461	2000-07-06